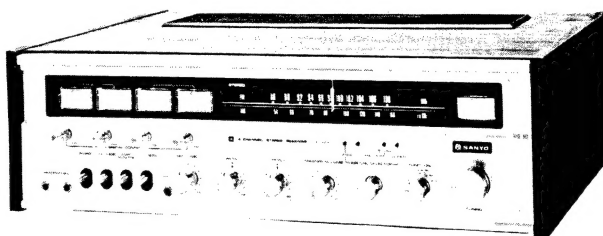




SANYO 4 CHANNEL STEREO RECEIVER

DCX 3300K
DCX 3300KA
SERVICE MANUAL



SPECIFICATION

GENERAL

IC	STK-023 x 2
	LA1201 x 1
FET	2SK41 x 1
Transistor	2SC693 x 18
	2SC537 x 8
	2SC536 x 1
	2SC668 x 2
	2SC929 x 1
Diode	2SC930 x 1
	2SA608 x 2
	1S188 x 29
	DS-430 x 14
	DS-118 x 2
Power Source	SZ-9 x 1
	AC 120V, 200, 230V
	150W
Power Consumption	
Dimension	APProx. Width 530mm (21-1/4")
	Deep 390mm (15-3/4")
	Hight 150mm (6")
Weight	Approx. 10.9Kg (24 lbs)

TUNER SECTION

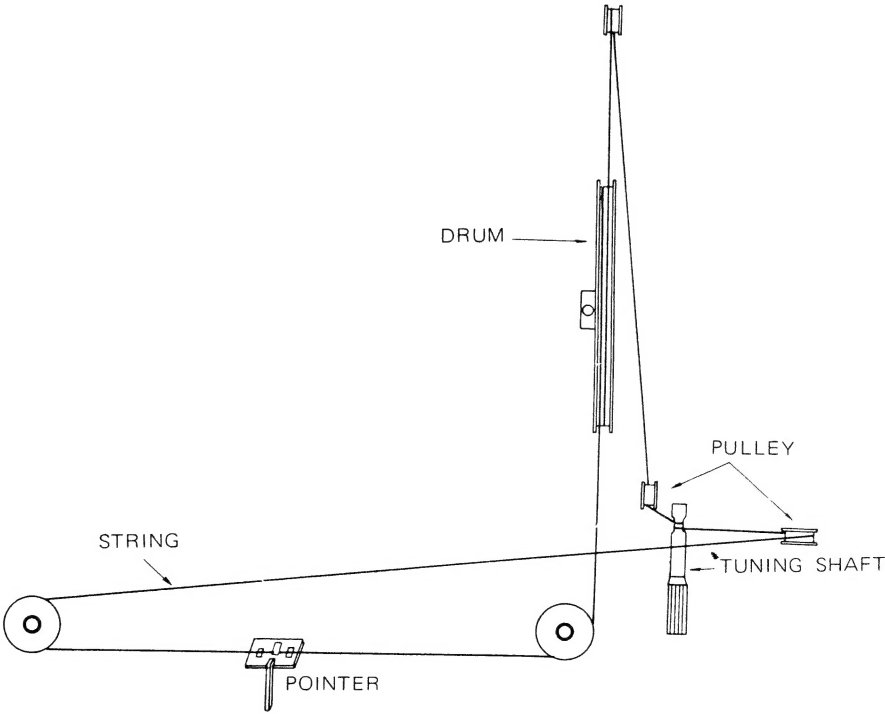
Frequency RAnge	AM 535 – 1,605KHz
	FM 88 – 108MHz

Inter. Frequency	AM 455KHz
	FM 10.7MHz
Sensitivity	AM 300μV/m
	FM 20μV
FM MPX Separation	30dB (at 1,000Hz)
Signal to Noise	40dB

AUDIO SECTION

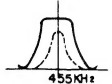
Power Output	20W (THD 10%)
Frequency Responce	80 – 12,000Hz ±3dB
Power Band Width	80 – 12,000Hz ±3dB
Input Terminal	PHONO 5mV 50KΩ
	AUX 120mV 100KΩ
	TAPE PLYBACK 300mV 100KΩ
	MIC -65dB 10KΩ
Output Terminal	SPEAKER 8Ω
	HEAD PHONE 8Ω
Tone Control	BASS ±12dB at 100Hz
	TREBLE ±12dB at 10KHz
Loudness Control	50Hz +12dB
	10KHz +5dB

DIAL CORD STRINGING



ADJUSTMENT



AM ADJUSTMENT

Step	Adjusting circuit	Connections		SG. frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to VC4.	Connect oscilloscope to test point TP2.	455 KHz (400Hz 30% modulation)	Near max. capacity of VC. at position with no unrequired signal.	AM 1st 9-20940 (Yellow) 9-20950 (White) AM 2nd 9-20960 (Black)	
2	RF	Connect standard loop antenna to output terminals of SG.	Connect V.T.V.M. to speaker terminals.	600 KHz (400Hz, 30% modulation)	600 KHz	AM ANT 9-20524 AM OSC 9-20700 (Red)	Max.
3		Place receiver 2 feet from loop antenna.		1400 KHz (400Hz, 30% modulation)	1400 KHz	TC4 TC5	Max.
4	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line dial scale.
3. Connect sweep generator, SG, V.T.V.M. and oscilloscope.
4. Selector switch to "AM".
5. Use a screwdriver with plastic grip for all adjustments.

FM ADJUSTMENT

Step	Adjusting circuit	Connections		SG frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to test point TP1 through 0.01μF	Connect oscilloscope to test point TP3.	10.7 MHz (no modulation)	Near max. capacity of VC. at position with no unrequired signal.	FM 1st 9-20890 (Violet) 9-20900 (Orange) FM 2nd 9-20910 (Gray) 9-20920 (Brown) FM 3rd 9-20930 (Pink) 9-20920 (Blue)	
2	Ratio Det.		Connect oscilloscope to test point TP4.			FM DET 9-20850 9-20860	
3	RF	Connect FM SG. to FM ANT. terminals.	Connect V.T.V.M. to speaker terminal.	90 MHz (400Hz, 30% modulation)	90 MHz	FM ANT 9-20910 FM OSC 9-20460 FM Coil 9-20260	Max.
4				106 MHz (400Hz, 30% modulation)	106 MHz	TC1 TC2 TC3	Max.
5	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line of dial scale.
3. Connect sweep generator, FM SG, V.T.V.M. and oscilloscope.
FM antenna input impedance is 300 ohm.
4. Selector switch to "FM".
5. Use a screwdriver with plastic grip for all adjustments.

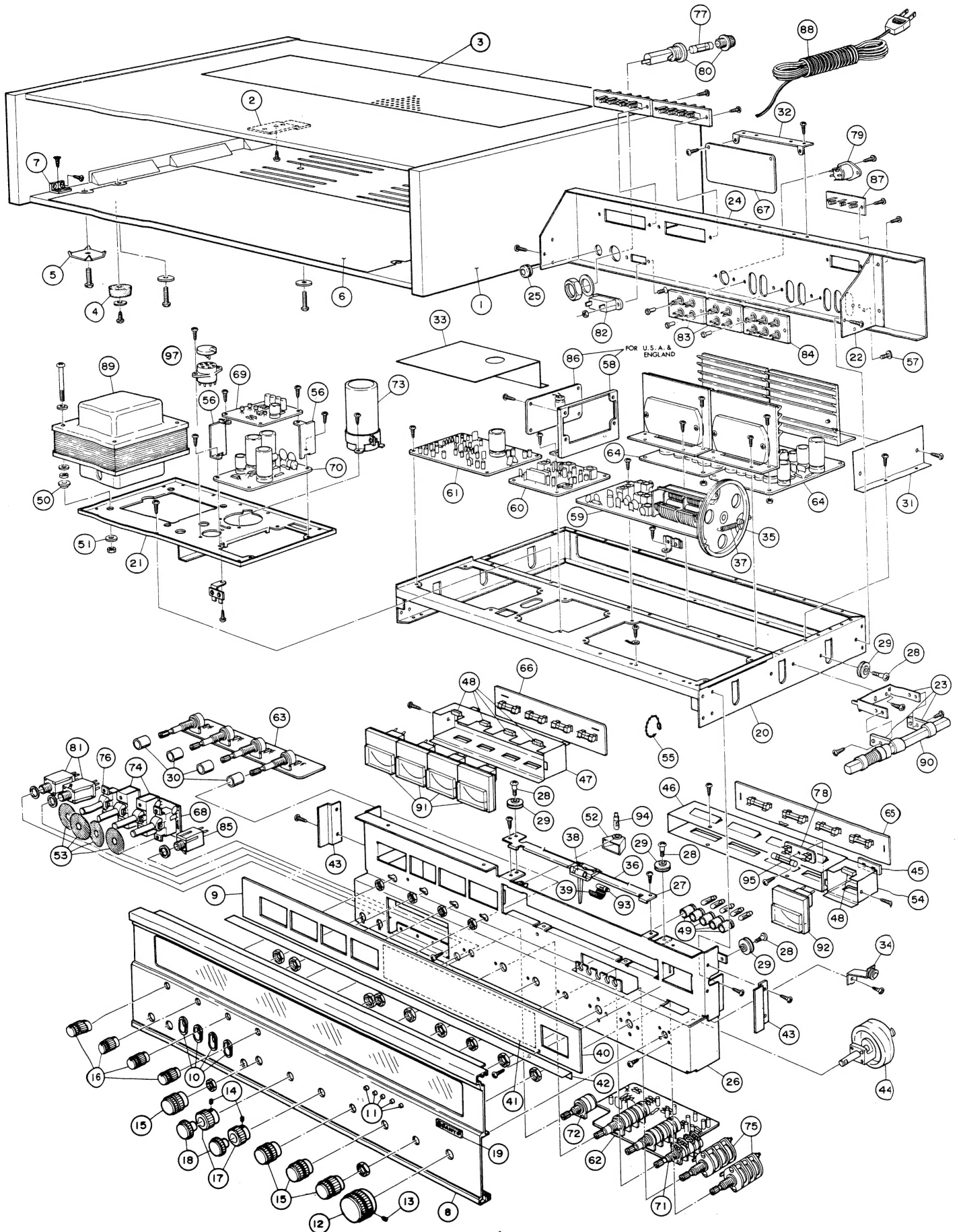
FM MPX ADJUSTMENT

Step	Adjusting circuit	Connections		Position of tuning dial	Adjustment	V.T.V.M.
		Input	Output			
1	SCA signal filter (67 KHz)	Add SCA signal to FM stereo SG. to FM ANT. terminals. FM stereo signal OFF.	Connect V.T.V.M. to emitter of TR201.	Near max. capacity of VC. at position with no unrequired signal.	67KHz 9-20140 (Red)	Min.
2	19KHz pilot signal	Connect FM stereo SG. to FM ANT terminals. 19KHz signal ON. SCA signal OFF.	Connect V.T.V.M. to test point TP8.		19KHz 9-20160 (Blue)	Max.
			Connect V.T.V.M. to test points TP7 & TP9.		19KHz 9-20150 (Green)	Max.
3	38 KHz	Connect FM stereo SG to FM ANT terminals. 19KHz signal ON. Main channel, sub channel signal ON. Add 1000Hz signal from L Ch.	Connect V.T.V.M. to test point TP8.		38KHz 9-20170 (Yellow)	Max.
4	FM stereo signal separation	Connect FM stereo SG to FM ANT terminals. 19KHz signal ON. Main channel, sub channel signal ON. Add 1000Hz signal from R Ch.	Connect V.T.V.M. to R speaker terminal.		Separation control SVR B-10K ohm	Min.
5			Connect V.T.V.M. to L speaker terminal.		38KHz 9-20170 (Yellow)	Min.
6	Repeat steps 4 ~ 5. Set at position with max. channel separation.					

PREPARE

1. Variable capacitor completely closed.
2. Connect FM stereo SG. and V.T.V.M.
3. Selector switch to "FM AUTO"
4. Use a screwdriver with plastic grip for all adjustments.

EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKING				CHASSIS MECHANICAL PARTS			
	131 6 1139 36401	Box Corrugate Exp (DCX-3300K)	1	33	131 2 6101 14701	Plate, Shield, SQ P.C.B.	1
	131 6 1139 36403	Box Corrugate Exp (DCX-3300KA)	1			Screw, Pan Hd. Tapping	2
	131 6 3009 16230	Pad, Front (DCX-3300K)	1	34	131 0 3020 01200	Pulley Ass'y	1
	131 6 3009 16240	Pad, Rear (DCX-3300K)	1			Screw, Button Hd. Tapping 3x8	1
	131 6 3009 17450	Pad, Left and Right (DCX-3300KA)	2	35	131 0 3002 10201	Drum Ass'y	1
	131 6 2119 00570	Bag, Polyethylene Exp	1			Screw, Pan Hd. 3x8	2
	131 6 4559 10100	Manufacturing No.	1	36	131 2 4112 10200	Rope 0.5φ	1
	131 6 2719 10300	Bag Fan	1	37	131 2 4111 00200	Spring, Rope	1
	131 6 4119 27001	Explanatory Booklet (DCX-3300K)	1		131 0 3011 12800	Pointer Ass'y (DCX-3300K)	1
	131 6 4119 27003	Explanatory Booklet (DCX-3300KA)	1	38	131 0 3011 13700	Pointer Ass'y (DCX-3300KA)	1
	4 2449 20230	Antenna FM	1	39	131 2 6308 12400	Filter	1
	131 6 4159 14700	Notes, Power Caution	1	40	131 2 1201 21300	Plate, Dial	1
CABINET				41	131 2 1406 11200	Plate, Color	1
	131 0 1101 04201	Cabinet Ass'y	1	25	131 2 6111 11300	Bushing (HEIKO 3P-4), 2 wire Cord only	1
1	131 2 1101 20801	Cabinet	(1)	25	131 2 6111 11200	Bushing (Rubber), 3 Wire Cord only	1
3	131 2 6201 12600	Plate, Heat Sink	1		131 0 3016 10000	Cramp Wire Ass'y, Photex, England Type	1
6	131 2 6101 16700	Plate, Shield	1	42	131 2 6110 17900	Screw, Pan Hd. Tapping 3x8	1
	131 2 3101 12500	Metal Mount (DCX-3300K)	1			Shelter Light, Plate Dial	1
2	131 2 3101 12501	Metal Mount (DCX-3300KA)	1	43	131 2 6110 18000	Screw, Pan Hd. Tapping 3x8	2
		Screw, Truss Hd. Tapping 3x8	3	44	131 0 3003 14400	Shaft, Dial Ass'y	1
4	131 2 1804 10401	Leg, Rubber	4			Screw, Pan Hd. Tapping 3x8	2
		Screw, Truss Hd. Tapping 4x12	4	45	131 2 6107 13900	Plate, Fiber, Pilot Holder	1
		Washer, Plain 4.2φx12φx1t	4		131 2 6107 14800	Plate, Fiber, Power SW (4-1319-228630)	1
5	131 2 4203 15200	Washer	4		131 2 6107 11800	Plate, Fiber, Power SW (4-1319-228610)	1
		Screw, Pan Hd. 4x20	7		131 2 6107 14200	Plate, Fiber, Power SW	1
7	131 2 3201 11600	Angle Leinf	2	46	131 2 6110 17600	Shelter Light, Dial	1
		Screw, Truss Hd. Tapping	8			Screw, Button Hd. Tapping 3x8	2
	131 2 1203 22602	Washer, Plain 4.2φx16φx1.6t	3	47	131 2 6110 17700	Shelter Light, Special Control	1
8	131 2 1203 22603	Panel Control (DCX-3300K)	1			Screw, Button Hd. Tapping 3x5	1
		Panel Control (DCX-3300KA)	1	48	131 2 5206 11300	Moldplane, Special Tuning	5
		Screw, Flat Hd. Tapping	3	49	131 2 6111 11600	Bushing, Function	5
9	131 2 1205 10800	Decoration Plate, Dial	1			Screw, Pan Hd. Tapping 3x8,	8
10	131 2 6113 11700	Shelter, Switch Lever	4			Plate Heat Sink	
11	131 2 1504 10900	Plate Sign Lamp 2/4CHL Selector	5			Washer, Plain 4.2φx12φx1t	4
		Nut, M8, Mic, Panel	1			Power Trans	
12	131 2 1601 22500	Knob, Tuning	1	50	131 2 4203 15300	Washer, Nylon, Power Trans	4
13	131 2 4201 12400	Screw, Tuning Knob 3x8	1	51	131 2 4203 15400	Washer, Nylon, Power Trans	4
15	131 2 1601 22600	Knob, Selector	4			Nut, Hex Hd.	4
16	131 2 1601 22700	Knob, Special Control	4	52	131 2 6111 11500	Bushing, Stereo Ind.	1
18	131 2 1601 22900	Knob, Bass, Treble	2	53	131 2 6113 11400	Shelter, Lever SW	4
17	131 2 1601 22800	Knob, Bass, Treble	2	54	131 2 6110 17800	Shelter Light, Tuning	1
14	131 2 4201 12500	Screw, Bass, Treble 3x5	2			Screw, Button Hd. Tapping 3x8	1
19	131 2 1301 13700	Badge	1	55	131 2 3608 11300	Cramp Wire, Nylon	12
					131 0 3016 10401	Cramp Wire Ass'y, ANT Lead	1
						Screw, Pan Hd. Tapping 3x8	1
CHASSIS MECHANICAL PARTS				CHASSIS ELECTRICAL PARTS			
20	131 2 3301 17000	Chassis	1	59	131 0 4001 35100	Printed Circuit Ass'y RF, IF	1
		Screw, Pan Hd. Tapping	17	60	131 0 4001 18007	Printed Circuit Ass'y, MPX	1
21	131 2 3617 12100	Metal Mount Trans	1	61	131 0 4001 32300	Printed Circuit Ass'y, SQ	1
		Screw, Pan Hd. Tapping	14	62	131 0 4001 31801	Printed Circuit Ass'y, Pre. Amp	1
	131 2 3306 15001	Panel, Rear (DCX-3300K)	1	63	131 0 4001 32001	Printed Circuit Ass'y, Meter	1
24	131 2 3306 15003	Panel, Rear (DCX-3300KA)	1	64	131 0 4001 35000	Printed Circuit Ass'y, Main AMP	2
		Screw, Button Hd. Tapping 3x8	6	65	131 0 4001 32101	Printed Circuit Ass'y, Pilot (Dial)	1
22	131 2 3101 16400	Metal Mount	1	66	131 0 4001 32200	Printed Circuit Ass'y, Pilot (Meter)	1
		Screw, Pan Hd. Tapping 3x8	2	67	131 0 4001 34900	Printed Circuit Ass'y, Equalizer	1
23	131 2 3603 12700	Metal Mount, Antenna	1	68	131 0 4001 34501	Printed Circuit Ass'y, Loudness	1
		Screw, Button Hd. Tapping 3x8	2	70	131 0 4001 34601	Printed Circuit Ass'y, Power Supply	1
		Screw, Pan Hd. Tapping 3x8	8		131 0 4001 38800	Printed Circuit Ass'y, Protector (Relay)	1
		Nut, Hex. Hd. M3	2		131 0 4001 42500	Printed Circuit Ass'y, Protector (Elect)	1
		Screw, Countersunk 3x8	2		131 0 4001 38900	Printed Circuit Ass'y, Pre-2	1
26	131 2 3305 15000	Panel, Front	1	71	4 2229 22990	Variable Resistor 200K ohm-B x 4	1
		Screw, Button Hd. Tapping 3x8	8			Master Volume	
27	131 2 4120 10500	Slide Rail, Pointer	1		4 2229 23180	Variable Resistor 1K ohm-B x 1 with SW	1
		Screw, Pan Hd. Tapping 3x8	2			Mic Volume (DCX-3300K)	
28	131 2 4108 10300	Spindle, Pulley	4	72	4 2229 23181	Variable Resistor 1K ohm-B x 1 with SW	1
29	131 2 4107 10300	Pulley	4			Mic Volume (DCX-3300KA)	
30	131 2 4208 15400	Spacer	4	73	4 2239 20371	Electrolytic Cap. 2200μF/63WV	1
31	131 2 6103 12600	Cover, Shield	1	74	4 2319 22344	Switch Lever 12P, SP Select,	2
		Screw, Pan Hd. Tapping 3x8	2			Tape Monitor	
32	131 2 3614 13800	Mount P.C.B. SQ Amp P.C.B.	1		4 2319 22300	Switch Rotary 2-4-5, Function	1
		Screw, Pan Hd. Tapping 3x8	4			(DCX-3300K)	
					4 2319 22620	Switch Rotary 3-6-5, 2CHL Select	1
						(DCX-3300K)	

NOTES: 1. Part orders must contain Model Number, Part Number and Description.

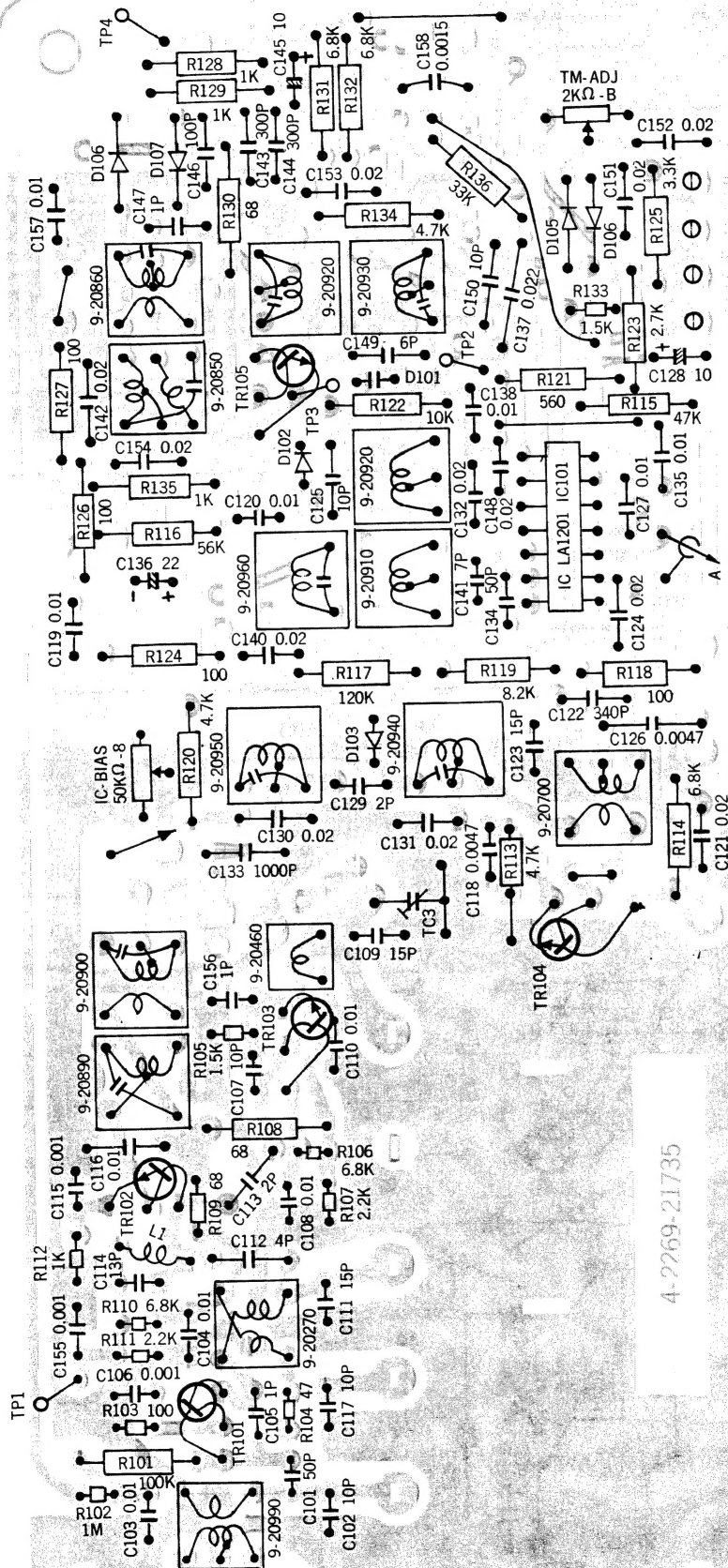
2. Unless otherwise noted, component parts indicated by parentheses in the column Q'ty are not available.

3. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
CHASSIS ELECTRICAL PARTS			
75	4 2319 22620	Switch Rotary 3-6-5, 2CHL Select, Function (DCX-3300KA)	2
76	4 2319 22631	Switch Lever 3P, Power SW	1
77	4 2349 20190	Fuse, 2A	1
78	4 2359 20160	Fuse Holder, Tuning Meter Lamp	1
79	4 2359 20190	Socket, DIN	1
80	4 2359 21110	Fuse Holder, AC	1
81	4 2359 21080	Jack, Headphone	2
82	4 2359 21100	Socket, AC Outlet	1
83	4 2359 21230	Socket, Phono 4P, Rec, Tape	2
84	4 2359 21250	Socket, Phono 6P, AUX PHONO	1
85	4 2359 21410	Jack, Mic	1
87	4 2379 20020	Terminal ANT 3P	1
89	4 2519 22761	Power Trans, 120/200/240V	1
90	4 2579 20524	Antenna Coil MW	1
91	4 5119 20291	Meter, VU	4
92	4 5119 20301	Meter, Tuning	1
93	4 6129 20310	Pilot Lamp, 6.3V, 140mA, Pointer	1
94	4 6129 20153	Pilot Lamp, Stereo Ind.	1
95	4 6129 20280	Pilot Lamp, Fuse Type, Tuning Meter	2
	4 2379 20250	Terminal Lug 1-1P	2
96	4 2379 20080	Terminal 4P, SP	2
97	4 2359 21220	Power Selector (Socket)	1
97	4 2369 20550	Power Selector (Plug)	1
SELECT FOLLOWING PARTS ACCORDING YOUR LOCAL SUPPLY METHOD and VOLTAGE			
88	4 2439 20390	Power Cord, UL cord	1
	4 2369 20260	Plug Conversion, Siemens	1
	4 2369 20270	Plug Conversion, Continental	1
	4 2369 20280	Plug Photex, Australia 3P	1
	4 2369 20290	Plug 3P, England 3P	1
RESISTORS			
R803		Carbon 820 ohm $\pm 10\%$ 1/4W	1
R807		Carbon 1K ohm $\pm 10\%$ 1/4W	1
R804		Carbon 1.5K ohm $\pm 10\%$ 1/4W	1
R801,802		Carbon 150K ohm $\pm 10\%$ 1/4W	2
R805,806		Carbon 1.8M ohm $\pm 10\%$ 1/2W	2
R813,814, 815,816		Oxide Metal 0.12 ohm $\pm 10\%$ 1/2W (DCX 3300KA)	4
R817		Oxide Metal 470 ohm $\pm 10\%$ 1W (DCX 3300KA)	1
CAPACITORS			
C802		P.P. 0.01 μ F $\pm 20\%$ 630WV	1
RF.IF. P.C.B. ASSEMBLY			
131-04001 35100		Printed Circuit Assy	1
4 2269 21735		Printed circuit board	1
4 2249 20410		Variable Capacitor	1
4 2249 20310		Trimmer Capacitor, FM OSC	1
4 2579 20990		Antenna Coil, FM	1
4 2589 20460		OSC Coil FM	1
4 2599 20270		RF Coil FM	1
4 2569 20890		IFT, FM 1st (Violet)	1
4 2569 20900		IFT, FM 1st (Yellow, Green)	1
4 2569 20910		IFT, FM 2nd (Gray)	1
4 2569 20920		IFT, FM 2nd, 3rd (Brown)	2
4 2569 20930		IFT, FM 3rd (Green)	1
4 2569 20850		IFT, FM Detector (Pink)	1
4 2569 20860		IFT, FM Detector (Blue)	1
4 2539 20130		RF Filter Choke	1
4 2589 20700		OSC Coil, AM (Red)	1
4 2569 20940		IFT, AM 1st (Yellow)	1
4 2569 20950		IFT, AM 2nd (White)	1
4 2569 20960		IFT, AM 3rd (Black)	1
4 2229 21800		Variable Resistor 2K-B, Tuning Meter	1
4 2229 21810		Variable Resistor 50K-B, IC Bias	1
SEMI-CONDUCTORS			
IC101		IC LA 1201	1
TR102		Transistor 2SC668 D, E	1
TR103		Transistor 2SC668 D	1
TR104		Transistor 2SC929 D, E	1
TR105		Transistor 2SC930 D, E	1
D101,102 103,104 105,106 107		Diode 1S188FM	7
TR101		Transistor FET 2SK41 F	1

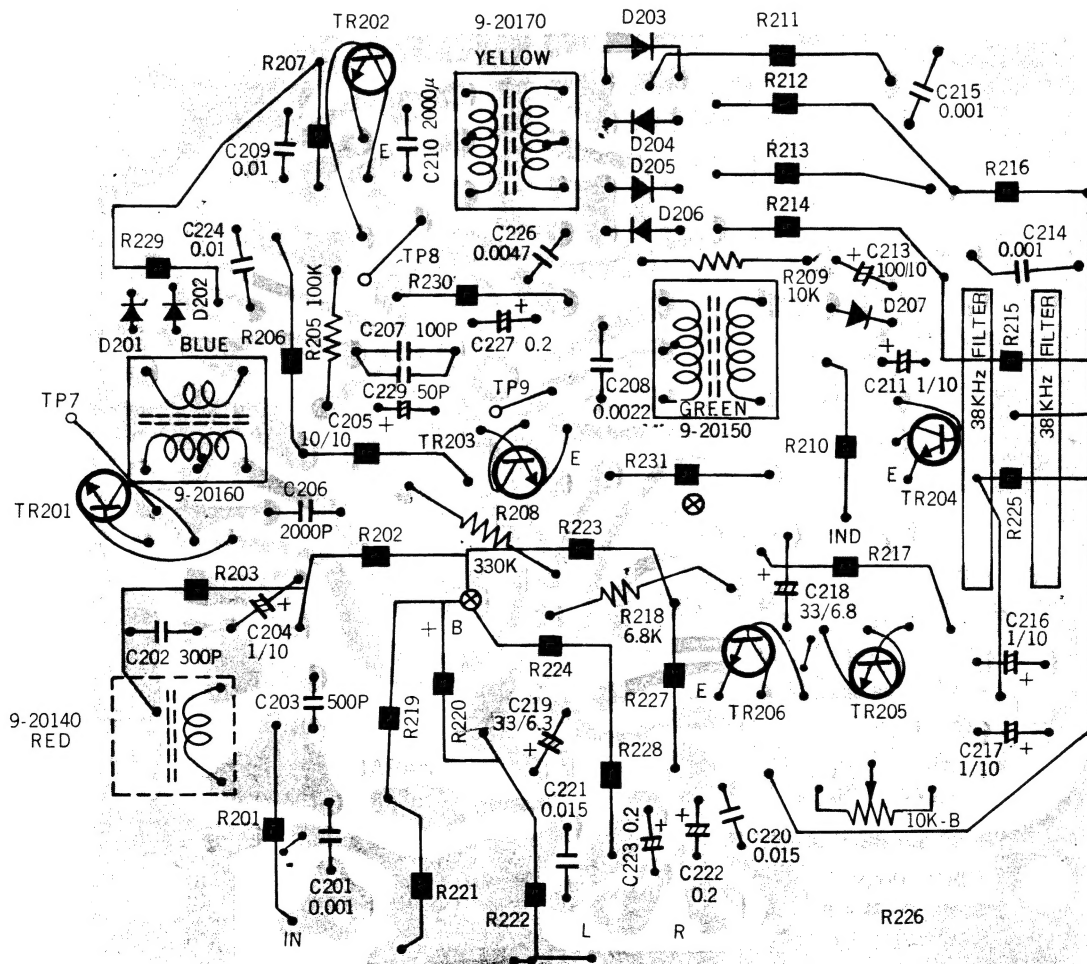
Ref. No. or Part No.	Description	Q'ty
RF. IF. P.C.B. ASSEMBLY		
RESISTORS		
R108,130	Carbon 68 ohm $\pm 10\%$ 1/4W	2
R118,124 126,127	Carbon 100 ohm $\pm 10\%$ 1/4W	4
R121	Carbon 560 ohm $\pm 10\%$ 1/4W	1
R128,129 135	Carbon 1K ohm $\pm 10\%$ 1/4W	3
R123	Carbon 2.7K ohm $\pm 10\%$ 1/4W	1
R125	Carbon 3.3K ohm $\pm 10\%$ 1/4W	1
R120,134	Carbon 4.7K ohm $\pm 10\%$ 1/4W	2
R114,131 132	Carbon 6.8K ohm $\pm 10\%$ 1/4W	3
R119	Carbon 8.2K ohm $\pm 10\%$ 1/4W	1
R122	Carbon 10K ohm $\pm 10\%$ 1/4W	1
R115	Carbon 47K ohm $\pm 10\%$ 1/4W	1
R116	Carbon 56K ohm $\pm 10\%$ 1/4W	1
R101	Carbon 100K ohm $\pm 10\%$ 1/4W	1
R117	Carbon 120K ohm $\pm 10\%$ 1/4W	1
R136	Carbon 33 K ohm $\pm 10\%$ 1/4W	1
R104	Carbon 47 ohm $\pm 10\%$ 1/4W ELR	1
R109	Carbon 68 ohm $\pm 10\%$ 1/4W ELR	1
R103	Carbon 100 ohm $\pm 10\%$ 1/4W ELR	1
R112	Carbon 1K ohm $\pm 10\%$ 1/4W ELR	1
R105,133	Carbon 1.5K ohm $\pm 10\%$ 1/4W ELR	2
R107,111	Carbon 2.2K ohm $\pm 10\%$ 1/4W ELR	2
R113	Carbon 4.7K ohm $\pm 10\%$ 1/4W ELR	1
R106,110	Carbon 6.8K ohm $\pm 10\%$ 1/4W ELR	2
R102	Carbon 1M ohm $\pm 10\%$ 1/4W ELR	1
CAPACITOR		
C147	Ceramic 1pF ± 0.25 pF 50WV NPO	1
C105 C156	Ceramic 1pF ± 0.25 pF 50WV	2
C129	Ceramic 2pF ± 0.25 pF 50WV	1
C112	Ceramic 4pF ± 0.25 pF 50WV	1
C149	Ceramic 6pF ± 0.25 pF 50WV	1
C102,117 125,150	Ceramic 10pF ± 0.25 pF 50WV	4
C107	Ceramic 10pF ± 0.5 pF 50WV	1
C141	Ceramic 7pF ± 0.25 pF 50WV	1
C114	Ceramic 13pF ± 0.25 pF 50WV	1
C109	Ceramic 15pF $\pm 5\%$ 50WV, N470	1
C111	Ceramic 15pF $\pm 5\%$ 50WV,	1
C123	Ceramic 15pF $\pm 5\%$ 50WV, N1500	1
C101,134	Ceramic 50pF $\pm 10\%$ 50WV	2
C146	Ceramic 100pF $\pm 20\%$ 50WV	1
C143,144	Ceramic 300pF $\pm 20\%$ 50WV	2
C122	Styrol 340pF $\pm 5\%$ 50WV	1
C106,115 155	Ceramic 0.001 μ F +80 -20% 50WV	3
C133	Styrol 0.001 μ F $\pm 10\%$ 50WV	1
C118,126	Mylar 0.0047 μ F $\pm 20\%$ 50WV	2
C108,135 138	Mylar 0.01 μ F $\pm 20\%$ 50WV	3
C110	Ceramic 0.01 μ F $\pm 20\%$ 50WV	1
C103,104 119,120		
116,127,157	Ceramic 0.01 μ F +80 -20% 50WV	7
C121,124 130,131 132,140 142,148 151,152 153,154	Ceramic 0.02 μ F +80 -20% 50WV	12
C137	Mylar 0.022 μ F $\pm 20\%$ 50WV	1
C128,145	Electrolytic 10 μ F +150 -10% 16WV	2
C136	Electrolytic 22 μ F +150 -10% 16WV	1
C113	Ceramic 2pF ± 0.25 pF 50WV	1
C158	Mylar 0.0015 μ F $\pm 20\%$ 50WV	1



Ref. No. or Part No.	Description	Q'ty
MPX P.C.B. ASSEMBLY		
131 0 4001 18007	Printed circuit assy	1
4 2269 21801	Printed circuit board	1
4 2659 20140	Multiplex coil SCA (red)	1
4 2659 20150	Multiplex coil, 19K Hz (green)	1
4 2659 20160	Multiplex coil, 19K Hz (blue)	1
4 2659 20170	Multiplex coil, 38K Hz (yellow)	1
4 2229 21270	VR B-10K ohm, Separation control	1
4 2279 20140	Rescap, 38K Hz Trap	2
111 2 6220 11100	Wire Wrap terminal	2
TR201,202	Transistor 2SC537	4
205,206,		
TR204,203	Transistor 2SC537 E	2
D201,202,203,204	Diode 1S188 FM1	6
205,206		
D207	Diode DS-430	1
	RESISTORS	
R218	Carbon P-type 6.8K ohm $\pm 10\%$ 1/4W	1
R209	Carbon P-type 10K ohm $\pm 10\%$ 1/4W	1
R205	Carbon P-type 100K ohm $\pm 10\%$ 1/4W	1
R208	Carbon P-type 330K ohm $\pm 10\%$ 1/4W	1

Ref. No. or Part No.	Description	Q'ty
MPX P.C.B. ASSEMBLY		
	CAPACITORS	
C202	Styrol 300PF ±10% 35WV	1
C203	Styrol 500PF ±10% 35WV	1
C206,210	Styrol 2000PF ±10% 35WV	2
C214,215,201	Mylar 0.001μF ±20% 50WV	3
C209,224,	Mylar 0.01μF ±20% 50WV	2
C220,221	Mylar 0.015μF ±20% 50WV	2
C208	Mylar 0.0022μF ±20% 50WV	1
C207	Ceramic 100pF. ±10% 50WV	1
C204,216,217,211	Electrolytic 1μF + 150 ~ -0% 10WV	4
C205	Electrolytic 10μF + 150 ~ -0% 10WV	1
C218,219	Electrolytic 33μF + 150 ~ -0% 6.3WV	2
C213	Electrolytic 100μF + 150 ~ -0% 10WV	1
C222,223,227	Alsicon 0.2μF +40 ~ -20% 10WV	3
C226	Mylar 0.0047μF ±20% 50WV	1

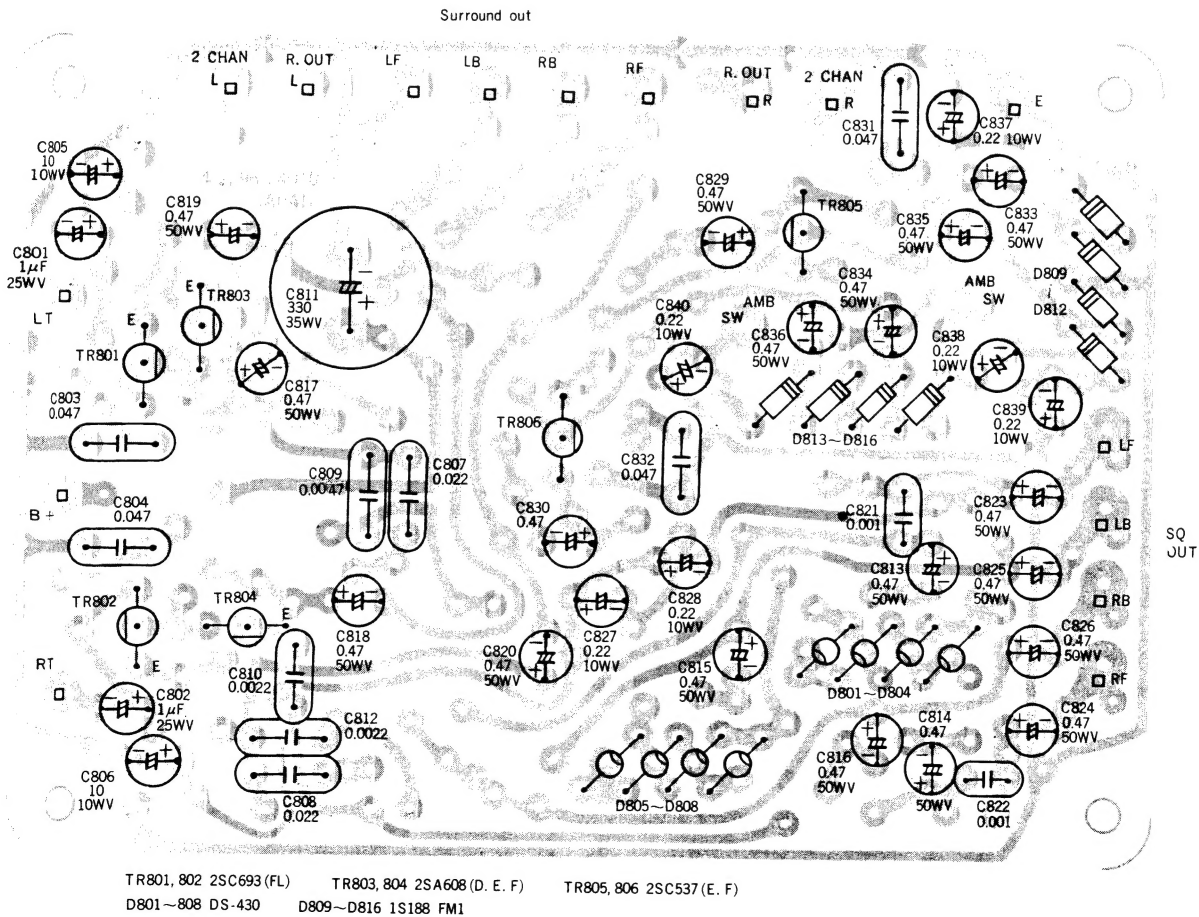
MPX. P.C.B. ASSEMBLY



Ref.No.	or	Part No.	Description	Q'ty
PRE AMP. P.C.B. ASSEMBLY				
R445			Carbon 220K ohm $\pm 10\%$ 1/4W	1
R405,406			Carbon 390K ohm $\pm 10\%$ 1/4W	4
407,408				
R417,418			Carbon 470K ohm $\pm 10\%$ 1/4W	4
419,420				
R409,410			Carbon 680K ohm $\pm 10\%$ 1/4W	4
411,412				
CAPACITORS				
C405,406			Ceramic 20pF $\pm 10\%$ 50WV	4
407,408				
C434			Ceramic 50pF $\pm 10\%$ 50W	1
C436,437			Ceramic 500pF $\pm 10\%$ 50WV	4
438,439				
C417,418			Mylar 0.0015 μ F $\pm 20\%$ 50WV	4
419,420				
C421,422			Mylar 0.01 μ F $\pm 20\%$ 50WV	8
423,424				
425,426				
427,428				
C429,430			Mylar 0.068 μ F $\pm 20\%$ 50WV	4
431,432				
C433			Al.Si. 0.22 μ F +150-10% 10WV	1
C401,402			Al.Si. 1 μ F +150-10% 25WV	9
403,404				
413,414				
415,416				
440				
C409,410			Electrolytic 1 μ F +150-10% 10WV	4
411,412				

Ref. No. or Part No.	Description	Q'ty	Ref. No. or Part No.	Description		
MATRIX P.B.C. ASSEMBLY			MATRIX P.C.B. ASSEMBLY			
131 0 4001 32300	Printed Circuit Assy	1	C827,828	AL.SI. 0.22μF ±20% 10WV	6	
4 2269 24010	Printed Circuit Board	1	837,838			
111 2 6220 11100	Wire Wrap Terminal	18	839,840			
SEMI-CONDUCTORS			C813,814			
TR801,802	Transistor 2SC693 FL, GL	2	815,816			
TR803,804	Transistor 2SA608 D,E,F	2	817,818			
TR805,806	Transistor 2SC537 E, F	2	819,820			
D801,802	Diode DS-430	8	823,824			
803,804			825,826			
805,806			829,830			
807,808			833,834			
D809,810			835,836			
811,812	Diode 1S188	8	AL.SI. 0.47μF +150-10% 50WV		18	
813,814			C821,822	Mylar 0.001μF ±20% 50WV		2
815.816			C810,812	Mylar 0.0022μF ±20% 50WV		2
CAPACITORS			C809	Mylar 0.0047μF ±20% 50WV		1
C805,806	Electrolytic 10μF +150 -10% 10WV	2	C807,808	Mylar 0.022μF ±20% 50WV		2
C811	Electrolytic 330μF +150-10% 35WV	1	C803,804	Mylar 0.047μF ±20% 50WV		
			831,832	Mylar 0.047μF ±20% 50WV	4	
			C801,802	Electrolytic 1μF ±20% 25WV	2	

MATRIX P.C.B. - ASSEMBLY

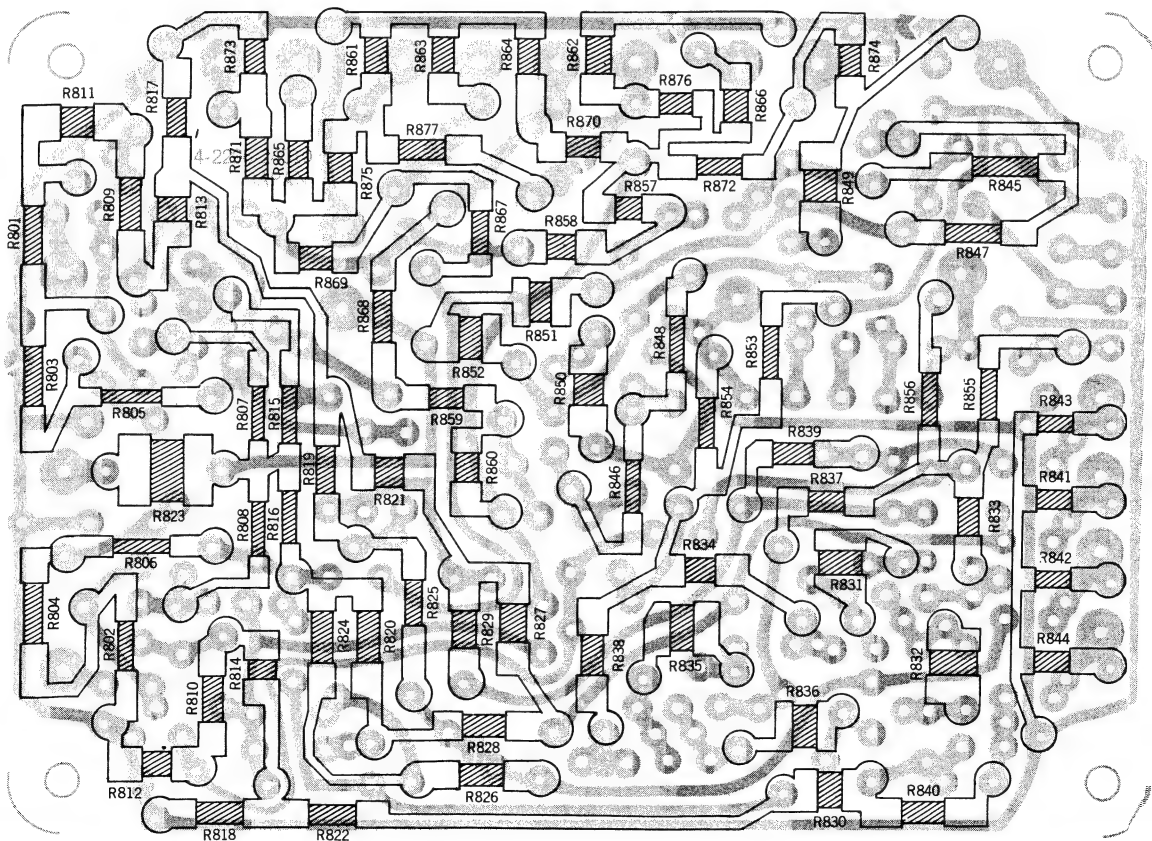


MATRIX P.C.B. ASSEMBLY

MATRIX P.C.B. PRINTED RESISTORS VALUE

R801	330K	±20%	1/32W	R821	10K	±10%	1/32W	R840	22K	±15%	1/32W	R859	100K	±10%	1/32W
R802	330K	±20%	1/32W	R822	22K	±10%	1/32W	R841	120K	±15%	1/32W	R860	100K	±10%	1/32W
R803	330K	±20%	1/32W	R823	220K	±20%	1/16W	R842	120K	±15%	1/32W	R861	120K	±15%	1/32W
R804	330K	±20%	1/32W	R824	22K	±10%	1/32W	R843	120K	±15%	1/32W	R862	120K	±15%	1/32W
R805	330K	±20%	1/32W	R825	120K	±10%	1/32W	R844	120K	±15%	1/32W	R863	120K	±15%	1/32W
R806	330K	±20%	1/32W	R826	100K	±10%	1/32W	R845	330K	±20%	1/32W	R864	120K	±15%	1/32W
R807	220K	±20%	1/32W	R827	100K	±10%	1/32W	R846	330K	±20%	1/32W	R865	18K	±15%	1/32W
R808	220K	±20%	1/32W	R828	120K	±10%	1/32W	R847	220K	±20%	1/32W	R866	18K	±15%	1/32W
R809	2.2K	±10%	1/32W	R829	56K	±15%	1/32W	R848	220K	±20%	1/32W	R867	180K	±10%	1/32W
R810	2.2K	±10%	1/32W	R830	56K	±10%	1/32W	R849	470	±10%	1/32W	R868	180K	±10%	1/32W
R811	10K	±20%	1/32W	R831	4.7K	±20%	1/32W	R850	470	±10%	1/32W	R869	82K	±10%	1/32W
R812	10K	±20%	1/32W	R832	4.7K	±20%	1/32W	R851	4.7K	±10%	1/32W	R870	82K	±10%	1/32W
R813	6.8K	±10%	1/32W	R833	100K	±20%	1/32W	R852	4.7K	±10%	1/32W	R871	120K	±15%	1/32W
R814	6.8K	±10%	1/32W	R834	100K	±20%	1/32W	R853	27K	±10%	1/32W	R872	120K	±15%	1/32W
R815	1.8K	±10%	1/32W	R835	4.7K	±20%	1/32W	R854	27K	±10%	1/32W	R873	120K	±15%	1/32W
R816	1.8K	±10%	1/32W	R836	4.7K	±20%	1/32W	R855	27K	±10%	1/32W	R874	120K	±15%	1/32W
R817	2.2K	±10%	1/32W	R837	100K	±20%	1/32W	R856	27K	±10%	1/32W	R875	68K	±10%	1/32W
R818	2.2K	±10%	1/32W	R838	100K	±20%	1/32W	R857	100K	±10%	1/32W	R876	68K	±10%	1/32W
R819	22K	±10%	1/32W	R839	22K	±15%	1/32W	R858	100K	±10%	1/32W	R877	47K	±10%	1/32W
R820	22K	±10%	1/32W												

PRINTED RESISTERS LAYOUT



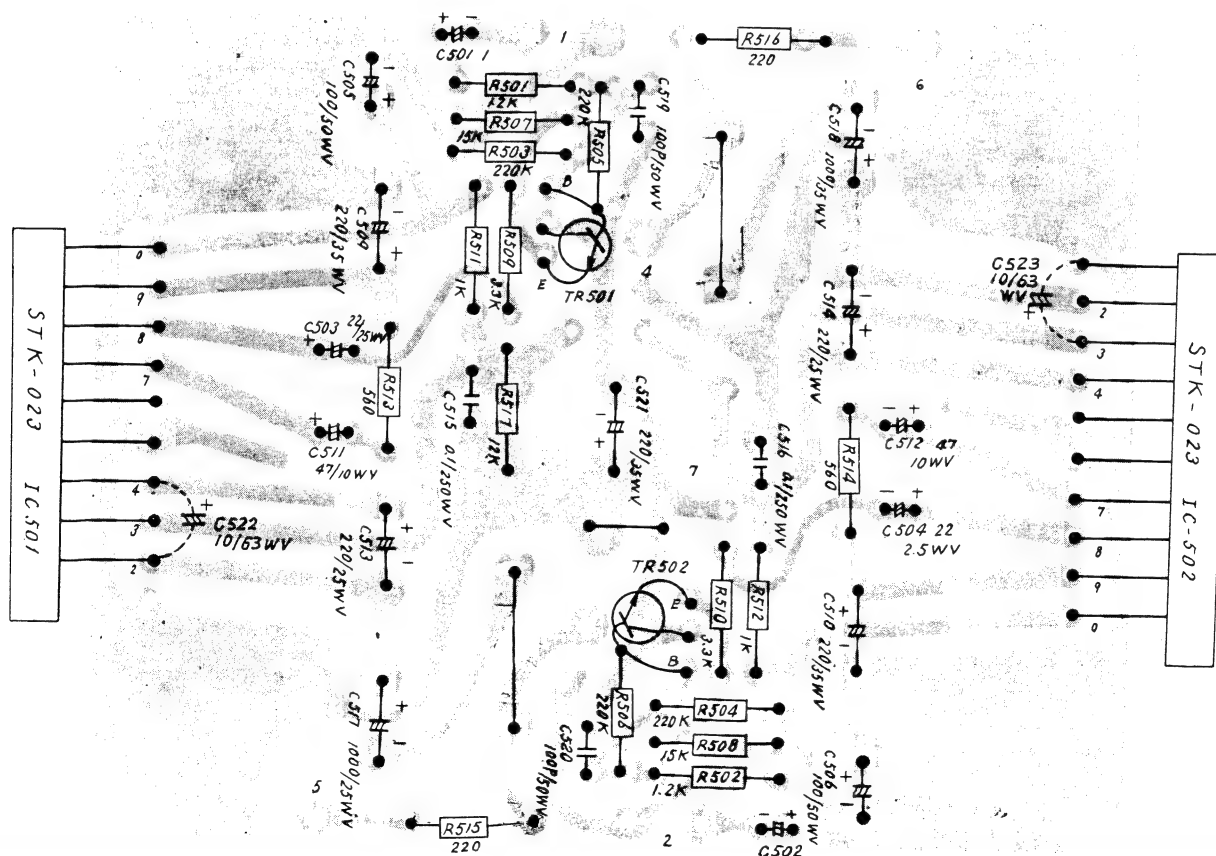
PARTS LIST _____ Part orders must contain Part No. and Description.

Part orders must contain Part No. and Description.

Ref. No. or Part No.	Description	Q'ty
MAIN AMP. P.C.B. ASSEMBLY		
131 0 4001 35000	Printed circuit Assy	1
4 2269 24 190	Printed Circuit Board	1
111 2 6220 11 100	Wire Wrap Terminal	9
131 2 6201 18500	Plate Heat Sink, Power Transistor	2
4 2359 20930	Fuse Holder	4
4 2349 20030	Fuse 2A	2
	Pan Hd. Tapping Screw 3 x 14	4
	Pan Hd. Screw 3 x 8	4
	Hexagon Nut M3	4
	SEMI-CONDUCTORS	
IC501,502	STK-023 G	2
TR501,502	2SC693 FL, GL	2
	RESISTORS	
R515,516	Carbon 220 $\pm 10\%$ 1/4W	2
R513,514	Carbon 560 $\pm 10\%$ 1/4W	2
R511,512	Carbon 1K $\pm 10\%$ 1/4W	2
R501,502	Carbon 1.2K $\pm 10\%$ 1/4W	2
R509,510	Carbon 3.3K $\pm 10\%$ 1/4W	2
R507,508	Carbon 15K $\pm 10\%$ 1/4W	2
R503,504		
505,506		
R517	Carbon 220K $\pm 10\%$ 1/4W	4
	Carbon 12K Ω $\pm 10\%$ 1/4W	1

Ref. No. or Part No.	Description	Qty
MAIN AMP. P.C.B. ASSEMBLY		
	CAPACITORS	
C503,504	Electrolytic 22 μ F +150 -10% 25WV	2
C511,512	Electrolytic 47 μ F +150 -10% 10WV	2
C505,506	Electrolytic 100 μ F +150 -10% 50WV	2
C513,514	Electrolytic 220 μ F +150 -10% 25WV	2
C509,510 521	Electrolytic 220 μ F +150 -10% 35WV	3
C517,518	Electrolytic 1000 μ F +150 -10% 35WV	2
C519,520	Ceramic 100pF \pm 10% 50WV	2
C515,516	Ceramic 0.1 μ F +100 -0% 250WV	2
C501,502	Al.Si. 1 μ F \pm 20% 25WV	2
C522,523	Electrolytic 10 μ F +150 -10% 63WV	2

MAIN AMP. P.C.B. ASSEMBLY _____

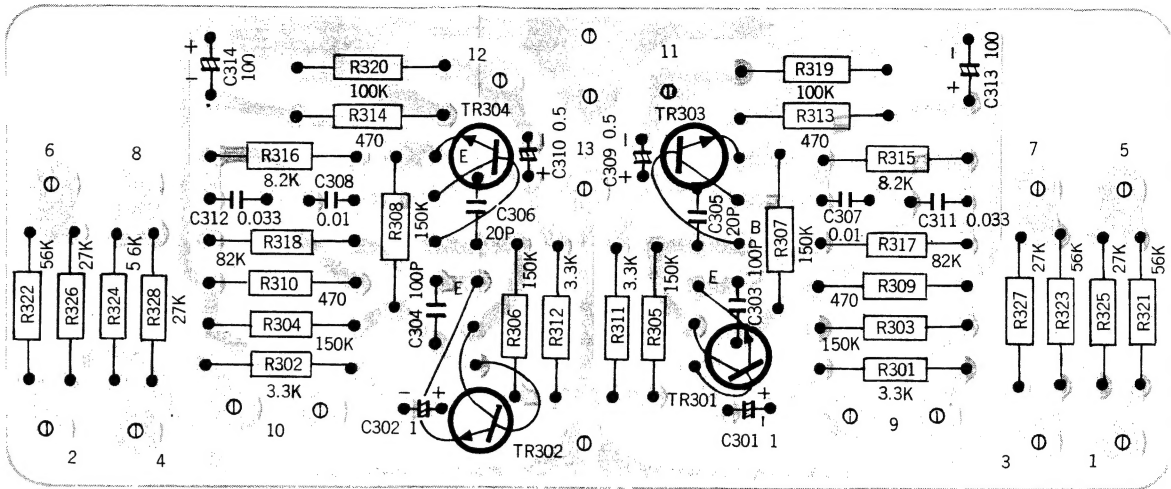


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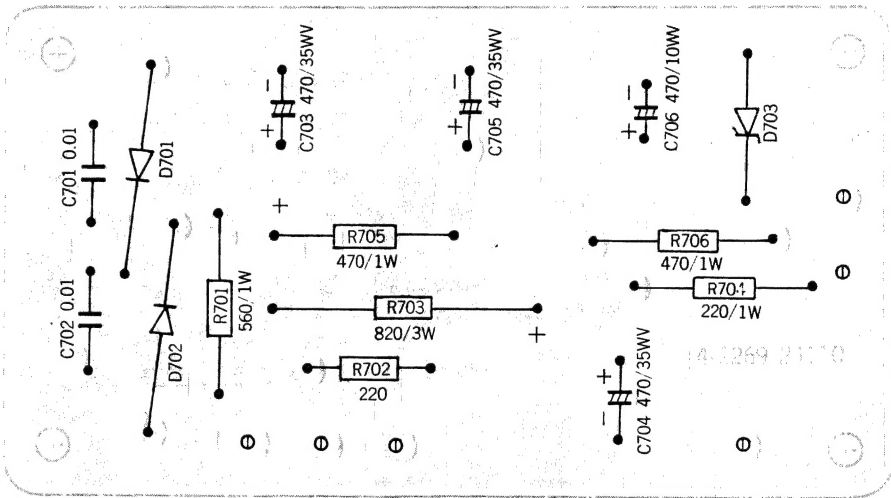
Part orders must contain Part No. and Description.

Ref. No. or Part No.	Description	Q'ty
EQUALIZER AMP. P.C.B. ASSEMBLY		
131 0 4001 34900	Printed Circuit Assy	1
111 2 6220 11100	Wire wrap Terminal	18
4 2269 24200	Printed Circuit Board	1
SEMI-CONDUCTOR		
TR301,302	Transistor 2SC693 FL, GL	2
TR303,304	Transistor 2SC693 F, G	2
RESISTORS		
R309,310	Carbon 470 ohm ±10% 1/4W	4
313,314		
R301,302	Carbon 3.3K ohm ±10% 1/4W	4
311,312		
R315,316	Carbon 8.2K ohm ±10% 1/4W	2
R317,318	Carbon 82K ohm ±10% 1/4W	2
R319,320	Carbon 100K ohm ±10% 1/4W	2
R303,304	Carbon 150K ohm ±10% 1/4W	6
305,306		
307,308		
R325,326	Carbon 27K ohm ±10% 1/4W	4
327,328		
R321,323	Carbon 56K ohm ±10% 1/4W	4
324,322		
CAPACITORS		
C305,306	Ceramic 20pF ±10% 50WV	2
C303,304	Ceramic 100pF ±10% 50WV	2
C307,308	Mylar 0.01μF ±20% 50WV	2
C311,312	Mylar 0.033μF ±20% 50WV	2
C309,310	Al. Si. 0.5μF ±20% 25WV	2
C301,302	Al. Si. 1μF ±20% 25WV	2
C313,314	Electrolytic 100μF +150-10% 10WV	2
POWER SUPPLY P.C.B. ASSEMBLY		
131 0 4001 34601	Printed Circuit Assy	1
4 2269 24110	Printed Circuit Board	1
111 2 0229 11100	Wire Wrap Terminal	6
SEMI-CONDUCTORS		
D701,702	Diode DS-118	2
D703	Zener Diode SZ-9	1
CAPACITORS		
C703,704	Electrolytic 470μF +150-10% 35WV	3
705		
C706	Electrolytic 470μF +150-10% 10WV	1
C701,702	Ceramic 0.01μF +80-20% 250W 250WV	2
RESISTOR		
R702	Carbon 220 ohm 10% 1/4W	1
R704	Metal Film 220 ohm ±10% 1W	1
R705,706	Metal Film 470 ohm ±10% 1W	2
R701	Metal Film 560 ohm ±10% 1W	1
R703	Metal Film 820 ohm ±10% 3W	1
METER P.C.B. ASSEMBLY		
131 0 4001 32001	Printed Circuit Assy	1
4 2269 23850	Printed Circuit Board	1
4 2229 22711	V.R. 100K-Cxl, Spatial Control	4
2 6220 11100	Wire Wrap Terminal	20
SEMI-CONDUCTORS		
D601,602	1S188	4
603,604		
D605,606	DS430	4
607,608		

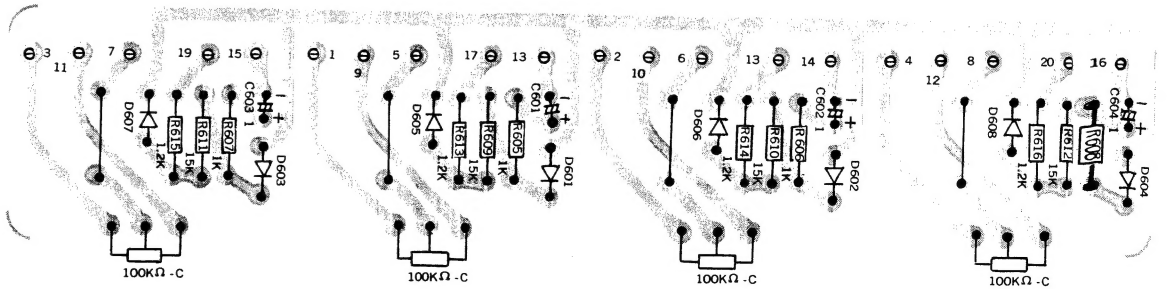
Ref. No. or Part No.	Description	Q'ty
METER P.C.B. ASSEMBLY		
RESISTORS		
R605,606	Carbon 1K ohm ±10% 1/4W	4
607,608		
R613,614	Carbon 1.2 K ohm ±10% 1/4W	4
615,616	Carbon 15K ohm ±10% 1/4W	4
R609,610		
611,612		
CAPACITORS		
C601,602	Electrolytic 1μF +150 -10% 50W	4
603,604		
PILOT (METER) P.C.B. ASSEMBLY		
131 0 4001 32200	Printed Circuit Assy	1
4 2269 23990	Printed Circuit Board	1
4 2359 20930	Fuse Holder	8
4 6129 20280	Pilot Lamp	4
PILOT (DIAL) P.C.B. ASSEMBLY		
131 0 4001 32101	Printed Circuit Assy	1
4 2269 23870	Printed Circuit Board	1
4 2359 20930	Fuse Holder	8
4 6129 20280	Pilot Lamp	4
111 2 6220 11100	Wire Wrap Terminal	10
4 6129 20300	Pilot Lamp (N)	2
4 6129 20301	Pilot Lamp (O)	1
4 6129 20302	Pilot Lamp (Y)	2
R801	Carbon 10 ohm ±10% 1/4W	1
LOUDNESS P.C.B. ASSEMBLY		
131 0 4001 34501	Printed Circuit Assy	1
4 2269 24430	Printed Circuit Board	1
4 2319 22333	Switch Lever 6P, LOUDNESS	1
111 2 6220 11100	Wire Wrap Terminal	5
R901,902	Carbon 39K ohm ±10% 1/4W	2
C903,904	Ceramic 390pF ±10% 50WV	2
C901,902	Mylar 0.01μF ±20% 50WV	2
PRE-2 P.C.B. ASSEMBLY PARTS (DCX 3300KA)		
131 0 4001 38900	Printed Circuit Assembly	1
4 2269 24810	Printed Circuit Assembly	1
SEMICONDUCTORS		
TR1101,TR1102	Transistor 2SC693	4
TR1103,TR1104		
RESISTORS		
R1101,R1102,	Carbon 150 K ±10% 1/4W	8
R1103,R1104,		
R1105,R1106,		
R1107,R1108	Carbon 10 K ±10% 1/4W	4
R1109,R1110,	Carbon 330 K ±10% 1/4W	4
R1111,R1112		
R1113,R1114,		
R1115,R1116		
CAPACITORS		
C1101,C1102,	Aluminium +150% 25WV	8
C1103,C1104,	1μF - 10%	
C1105,C1106,		
C1107,C1108		
C1109,C1110,	Ceramic 30pF ±10% 50WV	4
C1111,C1112		
C1113	Electrolytic 100μF 25WV	1



EQUALIZER AMP. P.C.B. ASSEMBLY

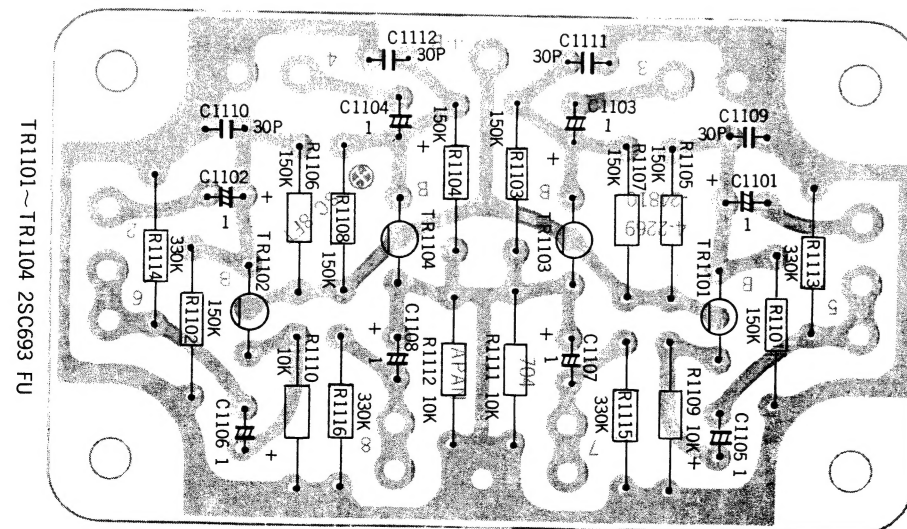
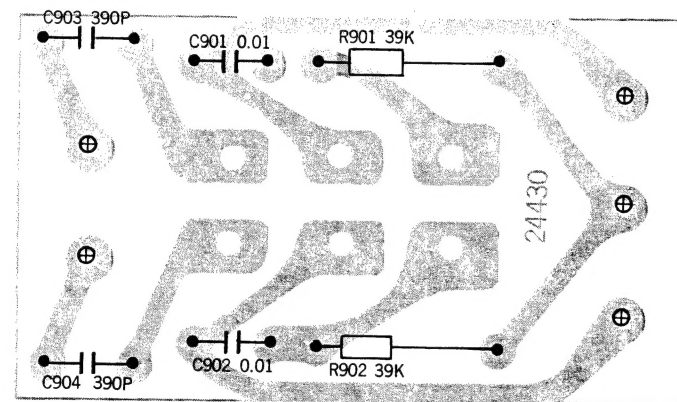
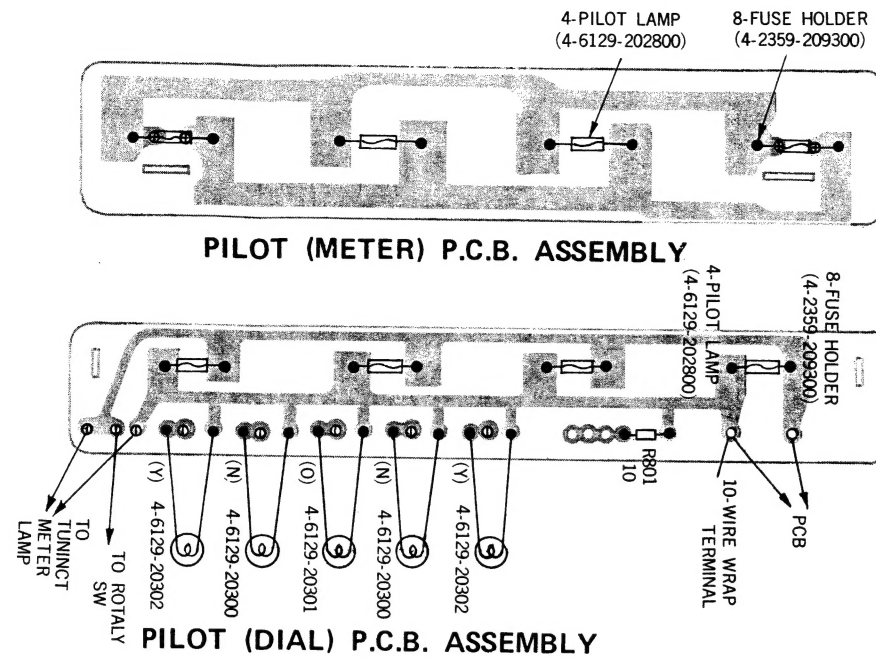


POWER SUPPLY P.C.B. ASSEMBLY



METER P.C.B. ASSEMBLY

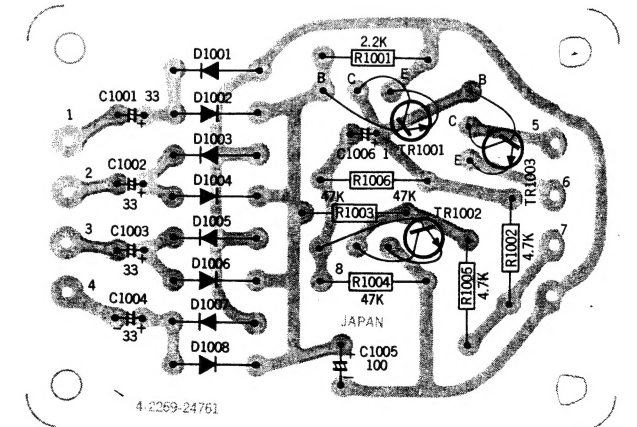
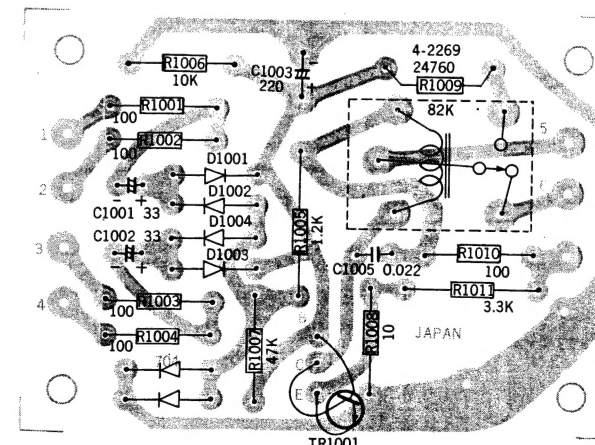
PARTS LIST_____



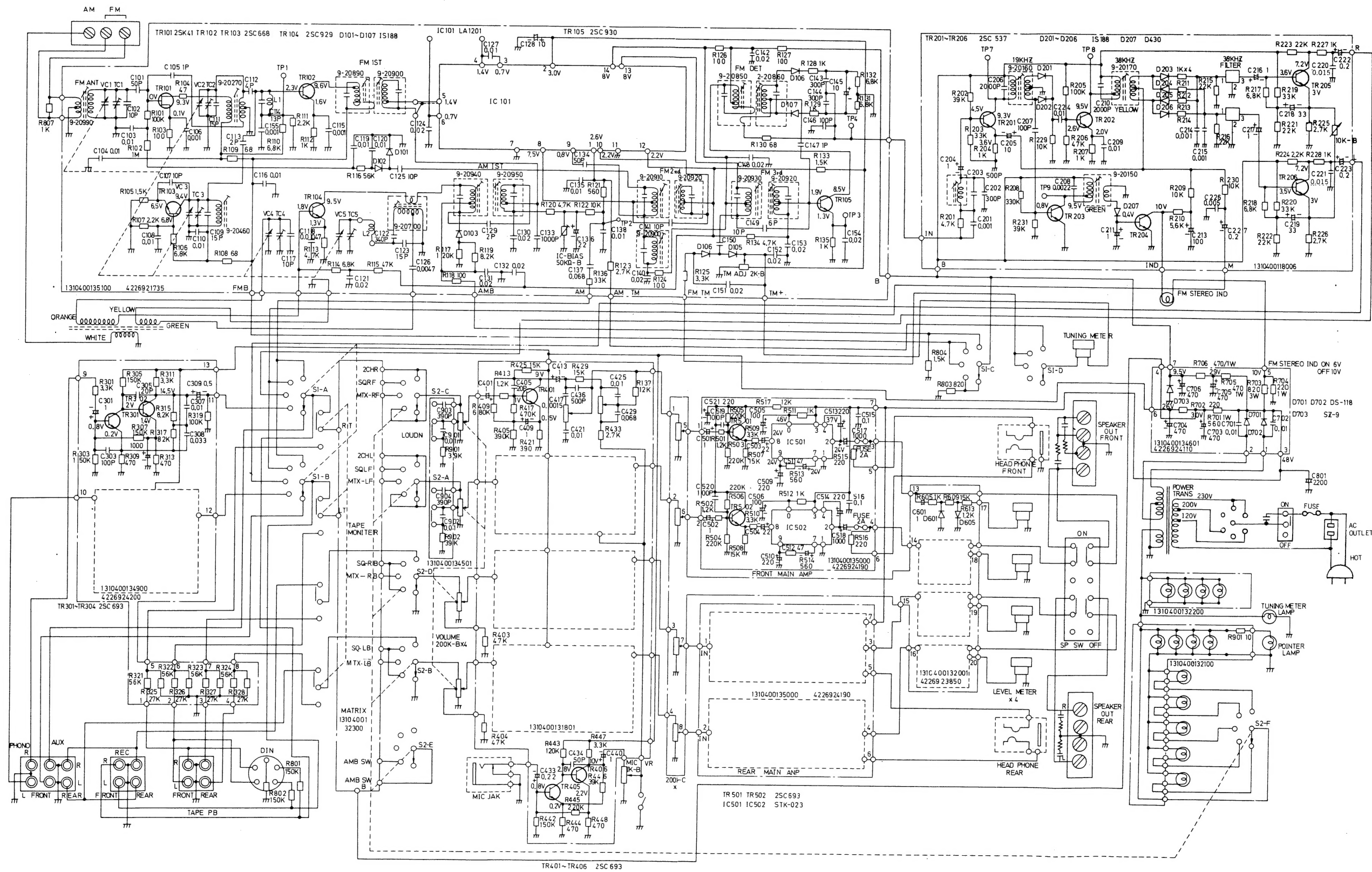
Ref. No.	or	Part No.	Description	Q'ty
PROTECTOR P.C.B. ASSEMBLY (RELAY)				
131 0 4001 38800			Printed Circuit Assembly	1
4 2269 24760			Printed Circuit Board	1
4 2329 20050			Relay DC24V, 19mA 1260Ω	1
			SEMI CONDUCTOR	
TR1001			Transistor 2SC536	1
D1005,D1006			Diode DS430	2
D1001,D1002,			Diode 1S188	4
D1003,D1004				
			RESISTORS	
R1008			Carbon 10Ω ±10% 1/4W	1
R1001,R1002,			Carbon 100Ω ±10% 1/4W	5
R1003,R1004				
R1010				
R1006			Carbon 10KΩ ±10% 1/4W	1
R1007			Carbon 47KΩ ±10% 1/4W	1
R1009			Carbon 82KΩ ±10% 1/4W	1
R1005			Metal Film 1.2KΩ ±10% 1/4W	1
R1011			Carbon 3.3KΩ ±10% 1/2W	1
			CAPACITORS	
C1001,C1002			Electrolytic 33μF +150% - 10%	2
C1003			Electrolytic 220μF +150% - 10%	1
C1005			Mylar 0.022μF ±20% 50WV	1

Ref. No.	or Part No.	Description	Q'ty
PROTECTOR P.C.B. ASSY (ELECTRONIC)			
	131 0 4001 42500 4 2269 24761	Protector PCB Assembly Printed Circuit Board	1 (1)
SEMI-CONDUCTORS			
TR1001,1002		Transistor 2SC536F	2
TR1003		Transistor 2SC536G	1
D1001-1008		Diode 1S188	8
RESISTORS			
R1003,1004, 1006		Carbon 47K ohm 10% 1/4W	3
R1001		Carbon 2.2K ohm 10% 1/4W	1
R1002,1005		Carbon 4.7K ohm 10% 1/4W	2
CAPACITORS			
C1001-1004		Electrolytic 33 μ F 10V	4
C1005		Electrolytic 100 μ F 16V	1
C1006		Electrolytic 1 μ F 25V	1

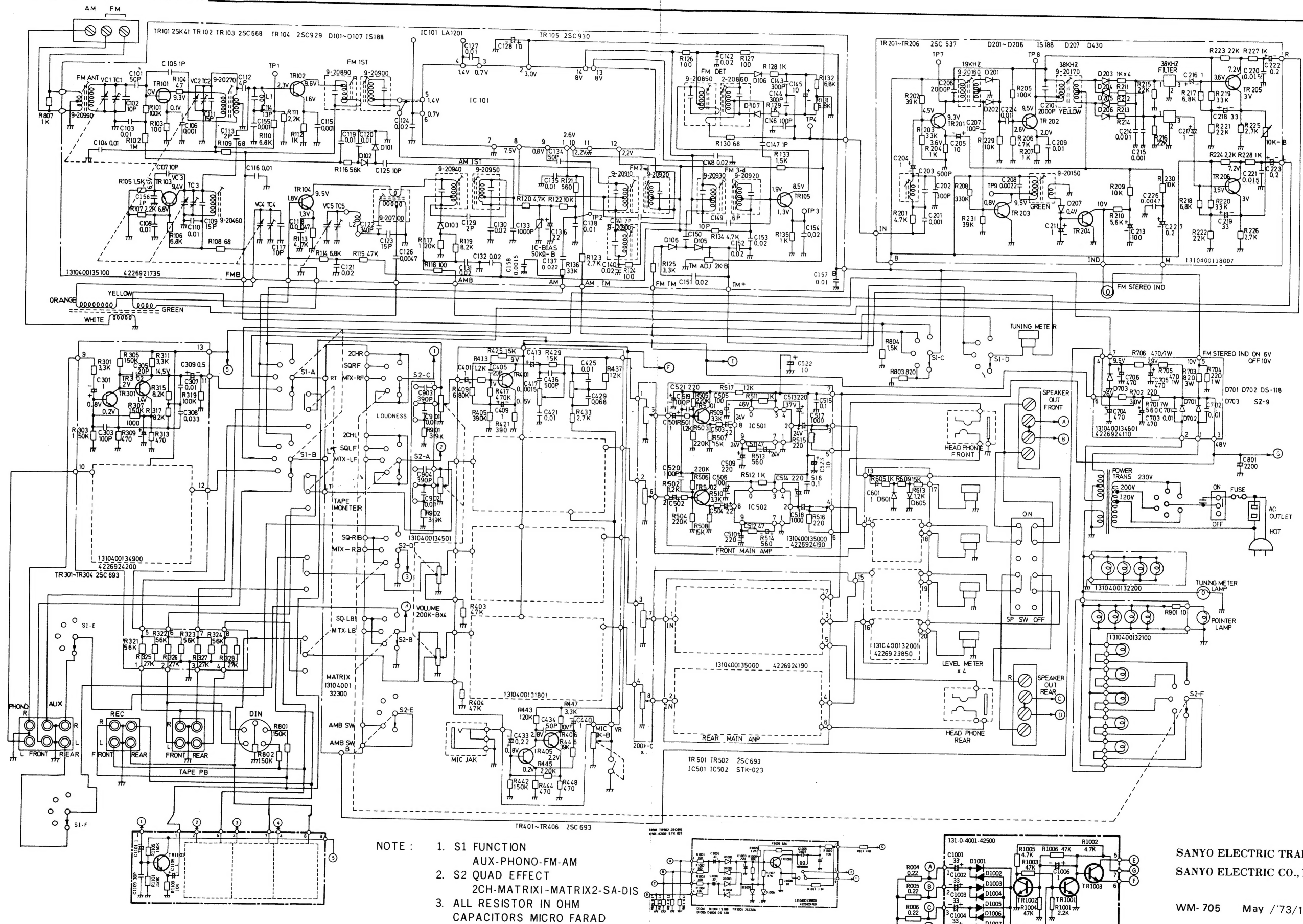
PROTECTOR (RELAY) P.C.B. ASSEMBLY _____ PROTECTOR (ELECTRIC) P.C.B. ASSEMBLY _____



SCHEMATIC DIAGRAM (DCX 3300K)



SCHEMATIC DIAGRAM (DCX 3300KA)



SANYO ELECTRIC TRADING CO., LTD.
SANYO ELECTRIC CO., LTD. SAKA, JAPAN.

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